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ABSTRACT

In response to 1986 state legislation calling for improvements in college effectiveness and accountability, the California Community Colleges began various efforts to promote the evaluation of matriculation. One effort, the Matriculation Local Research Options Project, was formed in 1989 to develop models for local evaluation of matriculation and through June 1992 produced four major volumes of work. The first volume, produced in November 1989, described the goals of the project, indicating that the designs for evaluation would be simple, comprehensive, and operate within advised legal constraints. The work also provided nine research designs to be used as templates and adapted by local research offices. Volume II, published in February 1991, described findings bearing on the accuracy, utility, and fairness of assessment practices at system colleges, emphasizing the implications of minimum assessment standards published by the Chancellor's Office. Volume III was completed in February 1992 and described findings from a study of college use of the nine designs made available in Volume I. Data indicated that fewer reports from colleges using the designs were received than anticipated, due in part to changes in assessment practices stemming from the publication of assessment standards by the Chancellor's Office. Finally, Volume IV provided guidance to colleges in the following five areas of matriculation research identified as problematic or not yet addressed in previous volumes: (1) monitoring instructor grading practices; (2) multiple measures; (3) validation of course prerequisites; (4) follow-up activities; and (5) information tracking systems. (KP)

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JC 930 213

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THE MATRICULATION LOCAL RESEARCH OPTIONS PROJECT
1989-1992

Matriculation in the California Community Colleges

The Seymour-Campbell Matriculation Act (Assembly Bill 3) was passed by the state legislature in 1986. The bill represents one aspect of the reform measures introduced during the 1980's to improve the effectiveness, success, and accountability of the state's community colleges.

Matriculation is a process that enhances access to the community colleges and promotes and sustains the efforts of college students to succeed in their academic endeavors through intervention and consistent support services provided by faculty and staff. The goals of matriculation are to ensure that all students complete their college courses, persist to the next academic term, and achieve their educational objectives. Since its inception, the matriculation process in the California community colleges has carried the banner for ensuring that state residents and citizens will be treated equitably with respect to access into the college system and educational opportunity.

The Board of Governors of the California Community Colleges adopted regulations and guidelines which require the colleges to submit plans detailing how the process is implemented at each college. The matriculation process consists of seven components; admissions, orientation, assessment, counseling and advisement, student follow-up, coordination and training, and research and evaluation. Five of these components provide direct services to students, introduce and direct them to valuable facilities and individuals who may facilitate their leaning and academic well-being. Two of the components assist the colleges and districts in the development of training practices, polices and methodologies that involve the entire college community in the matriculation process. These components also help to develop institutional capabilities for the evaluation, compliance, coordination and analysis of matriculation, while fostering important linkages throughout the institution that aid in maintaining the clarity and objects of the process.

History of the Project

In 1988, researchers in the field began to focus concern on plans for evaluation of matriculation, both at the local and statewide level. During the 1989 Annual Research Conference sponsored by the Community College League of California and the Research and Planning Group for the California Community Colleges, Jon Kangas, Dean of Academic Standards for the San Jose/Evergreen Community College District, suggested a strategy for promoting local research and maximizing its benefits. He proposed that as researchers in the field, we should

develop a few simple models for local evaluation of matriculation, that we should publish the models and encourage their use wherever appropriate in the state, and that we should compile the results of each model in an aggregated report.

The Chancellor's Office wanted to promote local research efforts in evaluating matriculation and was interested in providing technical assistance. In the spring of 1989, the Chancellor's Office called together a group of representatives from the Research and Planning Group and the Matriculation Regional Advisory Committee. The group was charged with executing the plan presented at Asilomar by Jon Kangas. This document reviews the products of the group.

Volume 1: MATRICULATION LOCAL RESEARCH OPTIONS PROJECT (November 1989)

(This material is available from ERIC: ED 311 979/JC 890 485)

Goals of the Project

Simplicity: A paramount concern in the development of the first set of designs was that they be simple. We wanted straightforward studies that were simple to perform, and results that were easily understood by all audiences. We sought designs that could be executed even at colleges with very few resources for research. Nevertheless, to a degree, the strengths of this simplicity are balanced by methodological weaknesses. We acknowledge that the methodology of some of the studies could be improved through more elaborate design or analysis, but such changes would run counter to our goals for the project.

Comprehensiveness: We have not developed a comprehensive or exhaustive evaluation of matriculation. Instead, we have developed a set of tools that are easy to use and fit many local needs. Our purpose is to promote local research and to aggregate it wherever sensible, but a complete evaluation of matriculation will need to go beyond these models.

Colleges should not assume that completing a few or even all of the designs will constitute a comprehensive and exhaustive evaluation of matriculation. Additional research will be needed, including validation studies of local placement instruments and placement procedures, counts of students by exemption category, and other data as required by the Chancellor.

Legal constraints: The methodology of the designs was constrained by legal advice from the Chancellor's Office. We were prohibited from presenting experimental designs that involved an untreated (or waiting-list) control group and assignment of subjects to treatment conditions. As a consequence, many of the designs rely on somewhat more complex, yet less powerful quasi-experimental approaches.

The Designs

Models: Each of the designs or studies is presented as a research template or model, and some of them may be adapted for use in your local district. Although you should not change basic features of the design without consulting with the Technical Assistant listed with the study, you may freely adapt the study to varying subject matter. For example, Study 6 might be adapted to study the relationship between reading level and political science performance. Also, the student satisfaction survey associated with Study 9 will need to be adapted for your local needs.

Strategic suggestions: Since many of the designs have student demographic information (e.g., age, gender, ethnicity, educational goal, etc.) as variables, it would be advantageous to develop a single common data base. This data base could be utilized with the various studies as certain outcome information is compiled. One of the critical variables will be the identification of the "served" and "not-served" matriculants. Attachment 1 in Design 9 provides a survey form that could be used to gather the demographic data referred to in many of the designs.

Technical assistance: We encourage you to contact the Technical Assistants for any of the designs you adopt. The Assistant is available to discuss the study and your plans, and to furnish technical advice on design, execution, data analysis and reporting.

Statistical tests: Tests of statistical significance are not required in any of the first nine studies, although they are recommended if sample sizes fall below 100 per group, and because several of the designs do not meet the assumptions for tests of significance. We encourage you to focus your attention on the practical and educational significance of any differences you observe between groups. If the sample sizes exceed 100 per group, differences that are large enough to have practical importance will typically be statistically significant.

Reporting: As part of accountability, we understand that the Chancellor's Office will be asking you to make available these final reports for the matriculation site review process. However, because our work group planned to prepare a monograph summarizing the findings across the colleges that perform each study, reports were collected from the colleges.

Volume III: MATRICULATION EVALUATION: MONOGRAPHS ON DESIGNS FROM THE LOCAL RESEARCH OPTIONS PROJECT
(February 1992)
(This material is available from ERIC: ED 345 787/JC 920 267)

In November of 1989, nine research designs, aimed at assisting in evaluation of their matriculation of their matriculation activities locally, were disseminated to the California Community Colleges. These designs were developed as part of the Local Research Options Project, sponsored by the Chancellor's Office, and focused on measuring the effects of matriculation on student performance, access and fairness issues, as well as student goal changes and satisfaction. Regional workshops were offered on the use of the designs and telephone consultation to the field was provided as necessary. Colleges were surveyed in October of 1990 regarding their use of the nine designs and their progress with the research studies. Colleges that had responded affirmatively received letters during the summer of 1991 soliciting their reports and/or data. The monographs contained in the third volume from the project summarize the findings generated from the use of the first nine designs.

The purpose of the monographs is to aggregate the colleges' findings wherever feasible, to allow for a broad review of matriculation evaluation efforts and to provide pertinent feedback regarding the use of common research designs in future evaluation activities. Each monograph will delineate the purpose of the research design, the recommended methodology, the results for colleges submitting data and discuss the meaningfulness of the outcomes. When the methodology of the design was altered, it is noted within the monograph. In addition, difficulties that arose with the methodology will be addressed and possible modifications are proposed for future use of the design.

There is a caveat regarding matriculation evaluation which is critical to keep in mind when reviewing the monographs. In July 1990, the Chancellor's Office published and distributed a document to the field, *Standards, Policies and Procedures for the Evaluation of Assessment Instruments used in the California Community Colleges*. Upon receipt of that document, colleges began to shift the focus of their research efforts from evaluating the overall impact of matriculation activities to validating their assessment instruments and practices. Limited resources were redirected to what appears to be a more vital need. Another set of designs related to the validity and fairness of assessment practices were developed and distributed to assist colleges with this effort. However, due to this shift in focus, there is much more activity occurring in assessment validation research than in evaluating the effectiveness of matriculation.

Fewer reports were received for use in these monographs than anticipated. Although colleges probably are engaged primarily in research related to assessment validation, they may have been hesitant to submit their studies. A number of schools did not use the designs developed to assist them as they either already had

research activities underway or had other evaluation models they were interested in utilizing. The Local Research Options Project committee members believed that there was much more research being conducted through the state on the effectiveness of matriculation than the limited number of received reports reflected. The committee volunteered to survey the California community colleges on their matriculation evaluation research efforts undertaken since Fall 1989. The results of the survey are encouraging regarding the evaluation activities occurring in the colleges and are far greater than reflected in the document.

Colleges have experienced a range of barriers that have frustrated their efforts in conducting research. These difficulties have been identified by colleges in their progress reports to the Chancellor's Office. These have to do primarily with lack of staff skilled in conducting research, time delays in modifying existing information-gathering procedures and computer support in compiling the necessary data. Although the colleges have been hampered in their desire to provide meaningful data that reflects on the effectiveness of their matriculation activities, the following monographs should elucidate initial findings that all colleges engaged in research activities can benefit from reviewing.

Volume II: ASSESSMENT VALIDATION PROJECT LOCAL RESEARCH OPTIONS
(February 1991)
(This material is available from the Matriculation Unit of Chancellor's Office of the California Community Colleges)

Purpose of the Volume

The research designs presented in the third volume from the project were designed to yield a "Validation and Fairness Portfolio" -- a set of findings bearing on the accuracy, utility and fairness of the assessment practices at the local college. Although the resulting information may not be definitive, it will be useful in any forum that reviews college assessment practices. Further, the portfolio is designed to respond to requirements published by the Chancellor's Office as minimum assessment standards to be met by local colleges or districts.

Implications of the Minimum Assessment Standards

In July 1990, the Chancellor's Office published *Standards, Policies and Procedures for the Evaluation of Assessment Instruments Used in the California Community Colleges*. Section III of that document represents a set of explicit criteria to be met by test publishes and another to be met by the colleges as test users.

Scope of validation studies. Standard II.1.a. requires colleges to perform predictive validation and refers to Standard I.1.b. which states "Documentation is required to indicate that the test scores relate to performance in classes similar to

ones offered by the California community colleges. The *course content should bear a close logical relationship with the placement purpose of a test, not courses in general."* [italics ours]

This language is interpreted to indicate that predictive validation studies should focus on the relationship of placement recommendations to course performance in courses with content closely related to the test domain. That is math placement instruments should be validated against math course performance, writing placement instruments should be validated against composition course performance, and so on. This standard does not require validation of placement tests as predictors of performance in courses in general.

Assessments based on writing samples. Local colleges may wish to conduct predictive validity studies of assessments based on writing samples. As long as the writing assessments yield quantitative scores on a scale with equal intervals between numbers, those writing scores may be used like other scores in the designs presented here. In assessments based on writing samples, different types of writing prompts may result in differential performance by various student groups.

Goals of the Volume

Simplicity. In the 1989 Local Research Options publication, the desire was to present straight forward studies that were simple to perform and yielded results that were easily understood by all audiences. For the this volume, the goals were similar, but the issues are more complex, the methods are more technical, and the results will require more informed interpretation and qualification. For some of these designs, it is likely that support will be needed from the design's technical assistant or from the psychometric consultants working with the Chancellor's Office. In addition, computer data analysis is a practical requirement of several of the designs.

Exhaustiveness. The project designs are not exhaustive of all appropriate validation methods. A range of alternative procedures may be equally applicable to the key assessment issues. These designs merely represent examples of acceptable approaches for gathering evidence concerning the validity and fairness of assessment practices at local colleges.

Practical constraints. Most colleges have assessment systems in place, and in many of these, placement practices have not been validated. Unfortunately, a number of technical considerations limit the usefulness of predictive validity evidence gathered on placement systems that are in use, although these limitations may be addressed by statistical corrections or by temporary modification or suspension of course screening practices. These constraints may mean that some colleges may be unable to gather conclusive predictive validity evidence. These colleges will need to supplement the predictive studies with research options that yield other types of validity evidence.

Evaluation as the Principle Purpose. The research designs presented in the volume are aimed at the collection of evidence about existing or planned assessment practices. They do not show how to develop and implement new placement rules or decision systems.

The Validation and Fairness Portfolio

The Validation and Fairness Portfolio constitutes a set of findings bearing on the accuracy, utility and fairness of the assessment practices at the local college.

It is sound practice to base validity estimates on a variety of appropriate evidence. Although the Minimum Standards focus on predictive validity evidence, the portfolio will be enhanced by the inclusion of additional evidence beyond that bearing on predictive validity. Other relevant information may include content validity evidence, student/faculty placement satisfaction data, and professional judgments.

Volume IV: MATRICULATION EVALUATION: PHASE III
LOCAL RESEARCH OPTIONS
(June 1992)
(This material is available from the Matriculation Unit of Chancellor's Office of the California Community Colleges)

This is the third set of research designs (and fourth volume) developed through the Local Research Options Project. The purpose of this final document is to provide guidance to colleges in five areas of matriculation research that have been identified as problematic or have not yet been addressed in the previous booklets.

The information provided in the volume is somewhat different than the presented in the previous documents as these are not so much research designs as they are recommended approaches to the five topics. As in the past, technical assistants are identified with each topic to provide additional consultation to the colleges.

The first topic focuses on *monitoring instructor grading practices.* Although not the only nor error-free outcome measure, student final grades traditionally have been chosen as the criterion variable in research studies measuring student performance. Ease in collecting and compiling final grades is probably the primary reason they are chosen. When colleges are faced with limited resources in staffing, time and finances, final grades many times are the natural choice whether the research be related to the effectiveness of their orientation programs, assessment instruments and practices, follow-up intervention strategies or validation of

prerequisites. The extent to which grading practices vary from instructor to instructor teaching the same course needs to be identified as to the impact it has on the statistical data generated for research purposes.

Another critical area of concern has to do with how colleges can identify viable additional measures to incorporate into their placement practices. Although the term "*multiple measures*" has been bandied about for the past year, it has become necessary to provide guidance to colleges in the appropriate processes to undertake to comply with the Matriculation Regulations. It is important to note that only assessment instruments need to be validated, not all methods or practices used in determining student placements. However, it is sound educational practice to monitor the effectiveness of a placement rule which should contain multiple parts.

The *validation of course prerequisites* has come to the forefront of matriculation issues as the regulations state that prerequisites and other limitations on enrollment need to be validated (with some exceptions--see Section 58106). Some schools have expressed concern about having prerequisites for their courses due to uncertainty on how to comply with the regulations. The design presented in this document is intended to provide colleges with clear direction on how to proceed in developing data bearing on the validity of their required prerequisites. This should allow colleges to have appropriate and realistic prerequisites for their courses and at the same time meet state requirements.

The integration of *follow-up* activities has been one of the last areas addressed by many colleges in their implementation of matriculation. Although studies revolving around this component generally will follow traditional lines of research methodology, a variety of approaches may be utilized. The methodological format chosen for research will dictate how the follow-up activity is implemented and should be identified at the forefront of the endeavor. Seven different research formats are presented.

Lastly, Matriculation and other requirements for monitoring performance over time will be with California Community Colleges for years to come. It is advantageous for schools to set up *information tracking systems* that can, with some ease, compile data that describe these outcomes. A guide is provided to assist colleges in collecting relevant information necessary in accountability efforts.

It has been increasingly evident that research for matriculation activities is going to be a long-term effort. No school will be able to sit back and announce, "Now we are finished with our research". Assessment practices will require review every few years as cut scores are shifted or curriculum modified. As changes occur in colleges' demographics, the effectiveness of matriculation services provided to students will need to monitored. And hopefully, Follow-up activities will become an essential part of an institution's practices. Research needs to be incorporated as an integral part of an integral part of each college's mission.